Vegetarian 87-1

Contents

I. NOTES OF INTEREST
   A. Vegetable Crops Calendar

II. COMMERCIAL VEGETABLES
   A. How safe is your food supply?
   B. Tomato minimum size raised
   C. Soil Testing - Making it work for you
   D. Ninth annual conference for technical and sales representatives serving the commercial vegetable industry

III. PESTICIDE UPDATE
   A. Maneb products still labelled for use on vegetable crops

IV. VEGETABLE GARDENING
   A. Seed catalogs, harbingers of spring

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The use of trade names in this publication is solely for the purpose of providing information and does not necessarily constitute a recommendation of the product.
I. NOTES OF INTEREST

A. Vegetable crops calendar


February 23, 1987. Commercial Vegetable Crops Extension In-Service Training-Mulching, Quincy REC. (Contact Dr. Steve Olson).

February 24, 1987. Commercial Vegetable Crops Extension In-Service Training-Irrigation, Quincy REC. (Contact Dr. Dorota Haman).


II. COMMERCIAL VEGETABLES

A. How safe is your food supply?

We are the best fed nation on earth but without pesticide applications the number of people going to bed hungry would increase about 10-fold. We have emerged from "silent spring", the doomsday philosophy, and now the cautious acceptance of "legal residues". After exhaustive testing, The Food and Drug Administration has established residue tolerances for acceptable pesticides. THE BIG QUESTION - How closely is our food supply monitored to determine compliance with established regulations? How much monitoring is sufficient?

A report was just issued on the General Accounting Office's probe of FDA testing of imported and domestic produce for pesticide residues. The FDA still is in the midst of reviewing the reports and is maintaining a low-key stance; at this time their official policy statement is "no comment".

A summary of their findings of illegal pesticide residues is contained in the following tabulation:

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports</th>
<th>Domestic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>6.2</td>
<td>3.9</td>
</tr>
<tr>
<td>1980</td>
<td>6.8</td>
<td>4.2</td>
</tr>
<tr>
<td>1981</td>
<td>8.2</td>
<td>2.8</td>
</tr>
<tr>
<td>1982</td>
<td>7.4</td>
<td>3.3</td>
</tr>
<tr>
<td>1983</td>
<td>4.7</td>
<td>3.6</td>
</tr>
<tr>
<td>1984</td>
<td>4.9</td>
<td>1.8</td>
</tr>
<tr>
<td>1985</td>
<td>5.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Ave. 6.1 2.9
The GAO investigation of imported products revealed that the FDA samples less than 1% of imported produce, lacks knowledge of what pesticides are used in other countries, and often fails to take action against importers when illegal residues are found. The report did not reveal whether there was a pattern as to specific products with illegal residue tolerances or country of origin.

The office's probe of the domestic food supply also found pesticide residue testing to be lax. Among the findings of the domestic investigation were a sampling rate of less than 1% of domestic shipments, a failure to test for many residues that may pose health risks, and a failure to stop foods with illegal residues from reaching the marketplace.

The United Fresh Fruit and Vegetable Association intends to push for increased appropriations for FDA pesticide inspection in the 100th Congress. The FDA has previously indicated it planned to shift some funding to inspection. With a larger sampling percentage, the consumer should feel more assured the food supply is safe.

(Gull Veg. 87-01)

B. Tomato minimum size raised

Tomato minimum size was raised (effective December 1, 1986). In September the Florida Tomato Committee recommended to the Secretary of Agriculture that the minimum size of tomatoes that could be shipped outside of the regulated area be raised to 2 8/32 inches in diameter. This recommendation was published in the Federal Register for comments and some 40 repackers filed objections to the change. After carefully studying the proposal and the comments filed, the U.S. Department of Agriculture signed an order raising the minimum size as specified above.

This means that from December 1, 1986 to June 15, 1987, no person shall handle any lot of tomatoes for shipment outside of the regulated area unless they are at least 2 8/32 inches in diameter and meet the other requirements outlined in Florida Tomato Committee Regulatory Bulletin No. 1 dated October 3, 1986. The primary reason for this change is to provide a better product for the consumer. A high percentage of the smaller tomatoes have a tendency to be immature.

November 25, 1986, four organizations filed suit against the Secretary of Agriculture and Director of the Fruit & Vegetable Division, AMS, USDA, asking for declaratory and injunctive relief to stay regulations restricting the importation and sale from Florida of 7x7 tomatoes. The complaint stated, "Plaintiffs will suffer irreparable harm if enforcement of the final rule is not stayed. Plaintiff repackers and importers will be forced to lay off a large number of employees and take large, unrecoverable losses due to the hasty elimination of the 7x7 tomatoes."

The request was aired in court and they ruled against the plaintiffs. Therefore, the order stands which was signed originally in November; 7x7 tomatoes cannot be shipped from the regulated area during the time specified.

(Gull Veg. 87-01)

C. Soil Testing - Making it work for you

The reliability of the fertilizer recommendation not only depends on the quality of the soil sample, but also of critical importance is the laboratory chosen to analyze the soil sample and to make the fertilizer
recommendation. Basically, all soil testing laboratories use the following steps in handling your sample: extraction, analysis, interpretation, and recommendations.

In the extraction and analysis phases, the soil sample is treated with a solution to extract a portion of the soil's nutrient reserve that contributes to crop growth and yield. In Florida, we use the Mehlich I or double-acid extractant. Almost any solution (soapy water, salt water, tea, or Pepsi-Cola) will extract nutrients from the sample, however the amount removed might not correlate with crop response.

Various labs use different extraction solutions, so it is critical that the lab that you choose employs an extraction solution that is calibrated so that it's use will permit accurate predictions of fertilizer needs for your soil. As an illustration of the differences in extractable nutrients that are possible, draw your attention to Table 1. The data are results from four soil testing laboratories that analyzed subsamples from the same batch of soil. The soil was sent to four soil testing laboratories and fertilizer recommendations for polyethylene-mulched tomatoes were requested.

Table 1. Comparison of soil analyses from 4 soil testing laboratories ("D" is the Univ. Fla Extension Soil Testing Laboratory).

<table>
<thead>
<tr>
<th>Test</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (water)</td>
<td>A: 3.7</td>
</tr>
<tr>
<td>Phosphorus (P)</td>
<td>A: 17 ug/ml</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>A: 0 meq/100 ml</td>
</tr>
<tr>
<td>Zinc (Zn)</td>
<td>A: 1 ug/ml</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>A: 0.2 ug/ml</td>
</tr>
</tbody>
</table>
Since most laboratories use similar methods to analyze the extracted solution, the differences in values in Table 1 are due mostly to differences in extraction solutions used by the various laboratories. Notice also that not all laboratories use the same units for reporting the results. Since the numbers in Table 1 are really soil index values, the units are not as critical to the grower as are the interpretations and recommendations discussed below.

The soil index values obtained from the analysis phase require interpretation which relies on field research and experience. It describes the relation of the soil index value to the relative capability of the soil to supply nutrients to the crop in amounts suitable for optimum yield. A scale ranging from "very low" to "very high" is often used.

The interpretation of the soil index values is used to make the final fertilizer recommendation. This recommendation should consist of two parts: the amount of fertilizer to use and the management practices to be employed in applying the fertilizer i.e. split applications, timing, placement, etc.

Recommendations must be based on field research and experience for a particular production area. They are based on research "calibration" data that links a specific soil index value with expected yield. If soil testing laboratories have properly calibrated their laboratory procedures, then similar fertilizer recommendations should result even under situations such as in Table 1 where different amounts of nutrients were extracted.

To see how well our four laboratories are doing in this regard, we can look at the fertilizer recommendations made by these laboratories in Table 2. Although we can't compare the amounts of extractable nutrients among laboratories in Table 1, we can and should compare the fertilizer recommendations. We see that the recommendations vary tremendously. Of particular concern are the excessive amounts of fertilizer recommended by laboratories A and C. Research in Florida has indicated that these high levels of fertilization do not increase yield, and in some cases actually decrease yield. In addition, some laboratories do not take into consideration the pesticides used by tomato growers when making a micronutrient recommendation. Several fungicides and bactericides contain micronutrients such as copper, manganese, and zinc. Use of these pesticides at recommended rates often results in ample foliar application of these micronutrients.

Data in Table 2 point out the problems we can get into unless we take time to search out the soil testing laboratory that can provide a recommendation that is based on calibration research for a specific region. At the University of Florida, we try to reduce these potential problems by avoiding testing samples from areas for which we have no calibration data.
Table 2. Fertilizer and lime recommendations for mulched tomatoes from four soil testing laboratories.

<table>
<thead>
<tr>
<th>Test</th>
<th>Laboratory A</th>
<th>Laboratory B</th>
<th>Laboratory C</th>
<th>Laboratory D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lime (T/A)</td>
<td>1.5</td>
<td>2.0</td>
<td>3.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Nitrogen (lb N/A)</td>
<td>275</td>
<td>140</td>
<td>280</td>
<td>220</td>
</tr>
<tr>
<td>Phosphorus (lb P₂O₅/A)</td>
<td>300</td>
<td>180</td>
<td>360</td>
<td>100</td>
</tr>
<tr>
<td>Potassium (lb K₂O/A)</td>
<td>400</td>
<td>180</td>
<td>400</td>
<td>240</td>
</tr>
<tr>
<td>Zinc (lb Zn/A)</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Manganese (lb Mn/A)</td>
<td>20</td>
<td>15</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

**SUMMARY**

Developing a good soil testing program is just like any other farming practice. It takes time and effort to get it right. Ask questions of your local county agent and extension specialists and get the answers that will help you understand the pitfalls associated with soil testing. Make sure you avoid these pitfalls. Use good sampling procedures by following the management unit concept and collecting quality soil samples. Keep accurate records on each management unit to include soil test index interpretations, fertilizer amounts applied and resulting yields. These records will help you trouble-shoot problems that might arise.

Finally, shop around for the best soil testing laboratory. There are many laboratories that can extract and analyze a soil sample but our task is to find the one that can provide us with the most appropriate fertilizer recommendation for our farm.

(Hochmuth, Veg. 87-01)

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D. Ninth annual conference for technical and sales representatives serving the commercial vegetable industry.

Thursday, February 19, 1987
Kendrick Auditorium
Manatee County Extension Service
1303 17th St. W. Palmetto, FL 33561

9 AM - Registration, Coffee and Doughnuts

Morning Session - Minimizing Pesticide Liability

An in-depth look at ways this industry may be better able to deal with their responsibilities both within their company and with growers to minimize user and environmental liability. We will look at the label and such issues as disposal, re-entry, extra label use, etc. We will also address liability in terms of new rules and laws to be aware of as well as from a more practical viewpoint.

9:30 - Agrichemical Liability
Carlton R. Layne
Consumer Safety Officer
Environmental Protection Agency
III. PESTICIDE UPDATE

A. Maneb products still labelled for use on vegetable crops.

At the beginning of 1987, numerous vegetable crops were to be removed from manebo labels (Griffin Maneb, Dithane M22 Special, Dithane FZ, etc) because of existing data gaps for chemical residues within the crops in question. It is our current understanding that labels of these manebo products will continue to contain those vegetables in question through January of 1987 and possibly through August of 1987. Manzate products containing manebo were voluntarily withdrawn from the marketplace by Dupont in 1986 but existing stocks in the marketplace can be used as labelled. With the able and competent cooperation of the Florida Fruit & Vegetable Association, Griffin Corporation, and members of the Maneb Task Force, we are still able to control plant diseases that cannot be controlled adequately without manebo fungicides. If residue data for turnips are not submitted to the EPA by January 15, 1987 and accepted by the EPA by January 31, 1987, turnips may be removed from all manebo labels. The loss of manebo on turnips would be detrimental to producers of this crop in the Southeast U.S.A. as no other organic fungicide is labelled for use on this crop as a foliar spray. Some sulfur-containing fungicides may be labelled on turnips but I am not aware of such.

The situation for the future use of manebo on vegetables has improved slightly on a temporary basis but with the protocol for the reregistration standard still in the future (August, 1987), we are concerned. Certain regulatory efforts are conducted under the assumption that we are in a luxury mode with reference to availability of plant disease control chemicals.
Current development of plant disease control chemicals generates specific-type compounds that are effective initially but are prone to degrees of uselessness because target organisms vary naturally and "throw out" resistant strains that persist over time. Broad spectrum fungicides, like maneb, must be maintained in the marketplace as they have unique characteristics for long term usage and their safety record is similar to that of the telephone.

(Tom Kucharek, Extension Plant Pathologist, Veg. 87-01)

III. VEGETABLE GARDENING

A. Seed catalogs, harbingers of spring.

Long before the melting of snow and the unfolding of new buds signal the arrival of spring, colorful descriptive catalogs from seed companies across the land arrive at our mailboxes, heralding the approaching gardening season. The 1987 issues are here, and as we eagerly thumb the pages, the promise of new gardening adventures abound at every turn. The entries are so tempting, we can hardly wait to place our order. The soil cries out to be turned, to bring to life those glorious pictures. We ponder our garden spot, visioning it in its full productive prime. Alas, it is so small! Too many wonderful things we cannot plant, their mysteries still unsolved. So many choices to make! Yet, there is pleasure in that task, so on to the next catalog we go.

Last year we sent readers of our newsletter a list of seed company addresses. We hope many of you wrote to them for a mail-order catalog and are now enjoying the fantasy of your 1987 spring garden. I have already received several and they are just as colorful and rewarding as ever.

All of the varieties we suggest for Florida are there, in one catalog or another, and we are proud of this source of planting material whether it be seeds, plants, or plant parts. But just as intriguing and tempting are the less common vegetables, which we call the minor crops. It seems there are a lot more items available in this category of hard-to-find items than before. Here are some examples which I see just glancing through three or four of these major seed company offerings:

Ornamental peppers
Jerusalem artichoke
Garbanzo beans
Southern peas
Honeydew melons
Pak Choi
Popcorn
Garlic chives
Lemon cucumbers
Corn salad
Dandelion
Chicory
Garlic
Kale
Watercress
Romaine
Shallots

Asparagus
Herbs
Fava beans
Broccoli raab
Crenshaw melons
Cilantro
Ornamental corn
Celtuce
Chervil
Sorrel
Arrugula (Roquette)
French endive
Elephant garlic
Ornamental kale
Florence fennel
Endive
Leeks

Globe artichoke
Dry beans (kidney, pinto)
Mung beans
Brussels sprouts
Chinese Cabbage
Celeriac
Chives
Armenian cucumbers
Dill
Garden cress
Radicchio
Collards
Norseradish
Kohlrabi
Parsley
Escarole
Mushrooms
<table>
<thead>
<tr>
<th>Item</th>
<th>Item</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snow peas</td>
<td>Snap peas</td>
<td>Jalapenos</td>
</tr>
<tr>
<td>Peanuts</td>
<td>Salsify</td>
<td>Root parsley</td>
</tr>
<tr>
<td>Parsnips</td>
<td>Rutabaga</td>
<td>Naked-seeded pumpkins</td>
</tr>
<tr>
<td>Chinese radish</td>
<td>Rhubarb</td>
<td>Zucchini</td>
</tr>
<tr>
<td>Spaghetti squash</td>
<td>Luffa gourd</td>
<td>Bottle gourds</td>
</tr>
<tr>
<td>Ornamental gourds</td>
<td>New Zealand spinach</td>
<td>Amaranth (gampala)</td>
</tr>
<tr>
<td>Swiss chard</td>
<td>Malabar spinach</td>
<td>Cherry tomatoes</td>
</tr>
<tr>
<td>Seedless watermelons</td>
<td>Ice-box melons</td>
<td>Edible soybeans</td>
</tr>
<tr>
<td>Rape</td>
<td>Mustard-spinach</td>
<td>Jicama</td>
</tr>
<tr>
<td>Capers</td>
<td>Miniature pumpkins</td>
<td>Yard-long beans</td>
</tr>
<tr>
<td>Chili peppers</td>
<td>Sweet banana pepper</td>
<td>Pimiento</td>
</tr>
<tr>
<td>Potato seed</td>
<td>Flowering cabbage</td>
<td>Strawberry seeds</td>
</tr>
<tr>
<td>Spud buds</td>
<td>Comfrey</td>
<td>Ginseng</td>
</tr>
<tr>
<td>Mamordica</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Some list, huh, folks? Wouldn't it be fun to be able to include all of them, along with the standard favorites? And this is just a sampling of a few catalog offerings, not to mention all the planting material that will be on display in the local garden seed and supply stores. It's shaping up to be a big year for vegetable gardens. Prognosticators say "yuppie gardens" are "in" for 1987, so park your "Bimmie" for awhile, and pore through your newly arrived seed catalogs. Get with it, and get growing! By the way, this a reminder that cultural information on most of these vegetables is included in the publication, "Know Your Minor Vegetables." Each county Extension office in Florida should have a copy.

(Stephens Veg. 87-01)

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